



UNITED STATES PATENT AND TRADEMARK OFFICE

OL
UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/807,158	03/24/2004	Jun Suzuki	H-1133	6471
7590	06/14/2005		EXAMINER	
Mattingly, Stanger & Malur, P.C. Suite 370 1800 Diagonal Road Alexandria, VA 22314			NGUYEN, MINH T	
			ART UNIT	PAPER NUMBER
			2816	

DATE MAILED: 06/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/807,158	SUZUKI ET AL.	
	Examiner	Art Unit	
	Minh Nguyen	2816	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on _____.
- 2a) This action is **FINAL**. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-3 and 11 is/are rejected.
- 7) Claim(s) 4-10 is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 24 March 2004 is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date: _____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>3/24/04</u> . | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| | 6) <input type="checkbox"/> Other: _____. |

DETAILED ACTION

Priority

1. Acknowledgment is made of applicant's claim for foreign priority based on an application filed in Japan on 3/25/03. It is noted, however, that applicant *has not filed* a certified copy of the Japanese application as required by 35 U.S.C. 119(b).

Specification

2. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Claim Objections

3. Claims 1, 4-7 and 11 are objected to because of the following informalities:

In claim 1, line 20, "output the carrier" should be changed to -- output a modulated carrier -- to avoid antecedent basis problem because the "carrier" recited on line 16 is different from the "carrier" recited on line 20,

line 21, "wherein" should be deleted.

In claim 4, line 9, "the target value" should be changed to -- the pre-set target value --.

In claim 5, line 4, "the reference current" should be changed to -- the reference current value --, see line 26 of claim 1.

In claim 6, line 13, "a target value" should be changed to -- the pre-set target value --.

In claim 7, line 5, "the target value" should be changed to -- the pre-set target value --.

In claim 11, line 20, "output the carrier" should be changed to -- output a modulated carrier -- to avoid antecedent basis problem because the "carrier" recited on line 16 is different from the "carrier" recited on line 20,

line 21, "wherein" should be deleted.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3 and 11 are rejected under 35 U.S.C. 102(b) as being anticipated by US Patent No. 5,180,993, issued to Dent.

As per claim 1, Dent discloses a communication semiconductor integrated circuit (figure 2), comprising:

a DA converter circuit (DAC 26) which DA-converts a modulating code (the code which feeds to the DAC 26);

a voltage-controlled oscillator circuit (the combination of circuits 16, 18 and 20);

a phase comparator (phase comparator 14) which detects a phase difference between an oscillation output of the voltage-controlled oscillator circuit (the signal from the VCO 20 is fed

Art Unit: 2816

to the phase comparator through divider 22) and a reference clock signal (the signal generated by the reference oscillator 10);

a control voltage generating circuit (AMP 28) which generates a voltage corresponding to the phase difference detected by the phase comparator and applies the voltage to the voltage-controlled oscillator circuit as a first control voltage (the AMP 28 receives the phase difference information from the phase comparator 14 and generates the signal to the ADDER 16),

the voltage-controlled oscillator circuit being controlled by the first control voltage (the voltage from the AMP 28 to the ADDER 16) to thereby generate a frequency signal used as a carrier, and the voltage-controlled oscillator circuit being controlled by a second control voltage (the voltage from the DAC 26 to the ADDER 16) based on an output of the DA converter circuit to thereby frequency-modulate the carrier and output the modulated carrier (the signal at the output of the VCO 20); and

a frequency adjustment/control circuit (ACCUMULATOR 24) which measures the frequency of the oscillation output of the voltage-controlled oscillator circuit (the frequency of the signal from the DIVIDER 22 to the ACCUMULATOR 24) and generates a signal (the signal to the DAC 26) corresponding to the measured value by referring to a pre-set target value (n) is provided,

wherein a reference current value (the current inside the DAC 26) of the DA converter circuit is changed based on the signal generated by the frequency adjustment/control circuit to thereby correct a frequency of the oscillation output of the voltage-controlled oscillator circuit (the current inside the DAC 28 is changed based on the signal from the ACCUMULATOR 24 to the DAC 26 generated by the ACCUMULATOR 24).

As per claim 2, the recited limitation is met because when a power supply voltage is applied to the Dent's circuit, the ACCUMULATOR 24 starts to do its function which is to measure the frequency of the VCO.

As per claim 3, the recited input of a predetermined command reads on the command labeled *n* input to the ACCUMULATOR 24.

As per claim 11, this claim is rejected for the same reasons noted in claim 1. The limitation recited on the last five lines is met because the Dent's frequency adjustment/control circuit ACCUMULATOR 24 provides signal to the DAC 26 circuit.

Allowable Subject Matter

5. Claims 4-10 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 4-9 are allowable because the prior art of record fails to disclose or suggest the inclusion of a frequency measuring circuit and an arithmetic circuit in the frequency adjustment/control circuit.

Claim 10 is allowable because the prior art of record fails to disclose or suggest the inclusion of first and second capacitance sections in the voltage controlled oscillator circuit for performing the recited functions independently.

Art Unit: 2816

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Minh Nguyen whose telephone number is **571-272-1748**. The examiner can normally be reached on Monday, Tuesday, Thursday, Friday 7:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Callahan can be reached on 571-272-1740. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MN 6/16/05

Minh Nguyen
Primary Examiner
Art Unit 2816